

case study: aggressive deadline met due to embedded engineering team's collaboration

radar based safety system demo melds ingenuity with engineering

results at a glance:

problem: An important demonstration to a large automobile manufacturer of this client's Forward Collision Assist (FCA) system was only four months away. Significant functionality of the system, which is under development, would have to be completed in that compressed time frame to illustrate the system's value and feasibility. The client lacked sufficient internal staff to complete the work in time for the demonstration.

results: Randstad Engineering assembled a staff of three engineers and a project manager to work collaboratively on-site at the client's domestic U.S. and German facilities and at the Randstad Engineering engineering center in Fort Lauderdale, FL.

benefits: Working collaboratively under a tight time constraint, the project team was able to develop the desired features for the successful demonstration of this client's FCA system to a large automobile manufacturer.

client profile:

With annual revenues of nearly \$9 billion, this client develops and manufactures automotive safety systems for major automobile manufacturers. Together with its joint ventures, the firm has more than 80 facilities with over 56,000 employees in 29 countries. In addition, the firm has ten technical centers in nine countries around the world, with 21 test tracks, more than any other automobile safety supplier.

business problem:

This client is developing a Forward Collision Assist (FCA) system that uses a sophisticated radar platform to detect and distinguish objects in front of a moving automobile and warn the driver of pending hazards. A commitment to demonstrate the system to a major automobile manufacturer was quickly approaching.

The client had approximately four months to develop a version of the system capable of performing enough of the functionality of the envisioned final product that the auto manufacturer would recognize its feasibility and value. This would entail designing and developing complex signal processing algorithms, loading the software into the hardware, and installing the hardware into the test vehicle. With insufficient personnel with the skills needed to complete this project on time, outside help was required.

After a series of meetings to understand the client's needs, challenges, and constraints, and to collaborate on potential solutions, the client was convinced that Randstad Engineering' Embedded Engineering could provide the planning, oversight, expertise, and flexible working arrangements this effort required.

the Randstad Engineering solution:

Randstad Engineering worked with this client to collaboratively develop a solution comprised of the following key components:

- Three highly-skilled engineers from the Embedded Engineering core team with extensive experience in radar technology, software architecture, signal processing, and low level embedded software development were assigned.
- A PMP certified project manager to collaborate with the client's project manager by leading and overseeing the Randstad Engineering team.
- A cost-saving, flexible delivery model that allowed the Randstad Engineering team to spend extended time at the client's facilities in Massachusetts and Germany, as well as at the Randstad Engineering engineering center in Fort Lauderdale, FL.

The Randstad Engineering engineers quickly learned the client's tools and standards, and easily integrated with their team and culture. The Randstad Engineering project manager worked collaboratively with his counterpart to develop and prioritize a list of tasks. Assignments were made to optimize efficiency. Tight oversight of the work insured that tasks were completed on time and milestone commitments were maintained.

Initially, the team generated a complexity analysis of the existing rear-facing platform software architecture. Subsequently, they successfully re-architected the existing software, developed additional features, and ported the software to the forward-facing platform. The new forward-facing system was demonstrated on schedule including the ability to detect targets at a longer range using forward facing High Sensitivity-Mid Range (HS-MR) radar technology. This is a key capability needed to detect objects in front of the automobile and differentiate between, for example, an approaching truck and a stationary object such as a bridge or tunnel.

The Randstad Engineering team continues to work with this client to design and develop additional features for their state-of-the-art FCA system.

benefits delivered

Randstad Engineering worked collaboratively with this client, under a demanding time schedule, to develop a solution that took into account its commitments, challenges and constraints. The system with its desired features, including the use of forward facing High Sensitivity-Mid Range (HS-MR) radar technology, was completed on time for the successful demonstration to a large automobile manufacturer.

visit us at www.randstadEngineering.com